

The user device or user equipment **520** may be a sensor or smart meter, or other device that may usually be configured for a single location.

[0069] In an exemplary embodiment, an apparatus, such as a node or user device, may include means for carrying out embodiments described above in relation to FIG. 4.

[0070] Processors **514** and **524** may be embodied by any computational or data processing device, such as a central processing unit (CPU), digital signal processor (DSP), application specific integrated circuit (ASIC), programmable logic devices (PLDs), field programmable gate arrays (FPGAs), digitally enhanced circuits, or comparable device or a combination thereof. The processors may be implemented as a single controller, or a plurality of controllers or processors. Additionally, the processors may be implemented as a pool of processors in a local configuration, in a cloud configuration, or in a combination thereof.

[0071] For firmware or software, the implementation may include modules or unit of at least one chip set (e.g., procedures, functions, and so on). Memories **515** and **525** may independently be any suitable storage device, such as a non-transitory computer-readable medium. A hard disk drive (HDD), random access memory (RAM), flash memory, or other suitable memory may be used. The memories may be combined on a single integrated circuit as the processor, or may be separate therefrom. Furthermore, the computer program instructions may be stored in the memory and which may be processed by the processors may be any suitable form of computer program code, for example, a compiled or interpreted computer program written in any suitable programming language. The memory or data storage entity is typically internal but may also be external or a combination thereof, such as in the case when additional memory capacity is obtained from a service provider. The memory may be fixed or removable.

[0072] The memory and the computer program instructions may be configured, with the processor for the particular device, to cause a hardware apparatus such as network element **510** and/or UE **520**, to perform any of the processes described above (see, for example, FIG. 4). Therefore, in certain embodiments, a non-transitory computer-readable medium may be encoded with computer instructions or one or more computer program (such as added or updated software routine, applet or macro) that, when executed in hardware, may perform a process such as one of the processes described herein. Computer programs may be coded by a programming language, which may be a high-level programming language, such as objective-C, C, C++, C#, Java, etc., or a low-level programming language, such as a machine language, or assembler. Alternatively, certain embodiments of the invention may be performed entirely in hardware.

[0073] Furthermore, although FIG. 5 illustrates a system including a network element **510** and a UE **520**, embodiments of the invention may be applicable to other configurations, and configurations involving additional elements, as illustrated and discussed herein. For example, multiple user equipment devices and multiple network elements may be present, or other nodes providing similar functionality, such as nodes that combine the functionality of a user equipment and an access point, such as a relay node.

[0074] Certain embodiments may have various benefits and/or advantages. For example, certain embodiments may ensure that measurements requirements are based on

requirements for the UE monitoring. Additionally, certain embodiments may ensure that a UE is not required to wake up only to perform measurements. Furthermore, certain embodiments may ensure a direct mapping between the MBMS configuration and the performance requirements.

[0075] Moreover, certain embodiments may cover any MBMS configuration, and thereby be generic. Also, certain embodiments may be based on real MBMS monitoring requirements and may map to already existing requirements. Further, certain embodiments may ensure fast requirement work, if—for example—connected mode DRX requirements are used.

[0076] Additionally, certain embodiments may be supported even if two sets of requirements are decided, such as one set for receiving and another for not receiving MBMS data. Moreover, no extra wake up may be needed on UE side, and no new parameters may be needed.

[0077] One having ordinary skill in the art will readily understand that the invention as discussed above may be practiced with steps in a different order, and/or with hardware elements in configurations which are different than those which are disclosed. Therefore, although the invention has been described based upon these preferred embodiments, it would be apparent to those of skill in the art that certain modifications, variations, and alternative constructions would be apparent, while remaining within the spirit and scope of the invention.

[0078] Partial Glossary

[0079] MBMS multimedia broadcast multimedia service

[0080] MBSFN MBMS single frequency network

[0081] RSRP reference signal received power

[0082] RSRQ reference signal received quality

[0083] DRX discontinuous reception

[0084] MCCH MBMS control channel

[0085] MTCH MBMS traffic channel

[0086] RNTI Radio Network Temporary Identifier

[0087] PDCCH physical downlink control channel

1-20. (canceled)

21. A method, comprising:

obtaining multimedia broadcast multimedia service (MBMS) configuration parameters;

defining generic minimum MBMS single frequency network (MBSFN) measurement performance requirements, based on the MBMS configuration parameters; and

performing MBMS measurements in accordance with the defined generic minimum MBSFN measurement performance requirements.

22. The method of claim 21, wherein defining the generic minimum MBSFN measurement performance requirements is further based on rules for monitoring the MBMS control channel.

23. The method of claim 21, wherein defining the generic minimum MBSFN measurement performance requirements is further based on a change notification repetition period, wherein the change notification repetition period is equal to a shortest modification period divided by a notification repetition coefficient.

24. The method of claim 21, wherein defining the generic minimum MBSFN measurement performance requirements is split with respect to whether receiving MBMS data or not receiving MBMS data.

25. The method of claim 21, wherein, for receiving MBMS data, defining the generic minimum MBSFN mea-